Project Context and Community Needs

City of Wichita, Kansas

Street Safety Education Initiative

June 2015

alta
PLANNING + DESIGN

Document Information			
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Document Revision Schedule			
Project Context and Community Needs			
Rev.	Description	Date	Reviewed by
v1	Draft Report	June 10, 2015	Cynthia Hoyle
v2	Final Report	June 26, 2015	Paul Wojciechowski, Scott Wadle, Wichita PMT and stakeholders

Table of Contents

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1 Introduction

1.1 Report Objectives

This report summarizes specific local issues regarding Wichita's existing traffic safety culture related to bicycling and driving near bicyclists. Information was collected through the following avenues:

- An examination of KDOT crash data in the Wichita area from 2009-2014[1], particularly behavioral trends
- A 2015 community survey distributed online to solicit public input on local needs
- A review of previous planning documents and Wichita Bike Plan survey responses

Summary of Major Findings:

- Problematic behaviors are similar across all types of road users. Nonetheless, people bicycling and walking are more likely to be injured in crashes with motor vehicles. "Failure to yield" is especially prevalent among crash report data.
- The community survey found public concern surrounding two major themes: unpredictable behavior and law-breaking (i.e. - failure to yield, darting, lack of bicycle lights, etc.). Respondents noted a general disappointment with current levels of respect between motorists and bicyclists.
- Several high-crash corridors emerged from the crash data. Other corridors and specific locations were frequently mentioned in the community survey. Many, such as 21st, Broadway, Central, and Douglas, were mentioned in both the crash data and the community survey.

2 Bicycle-Motor Vehicle Crash Data Behavioral Trends 2009-2014

2.1 Overview

The team analyzed bicycle- and pedestrian-involved crashes that occurred in Wichita from 2009-2014. Data originated from Kansas Department of Transportation datasets, based on police reports filed within the same period.[2] KDOT maintains these records if the crash occurred on a public roadway, involved at least one motor vehicle, and led to a fatality, injury, or property damage greater than $1,000.[3] Of those crash reports that listed a contributing factor, 'failure to yield' was the most prevalently identified factor across each type of roadway user. Crashes occurred predominately in intersections or were intersection-related.

Where relevant, this section also integrates findings from the project's corresponding resident survey.

[1] Note: As of this report, KDOT considers 2014 data incomplete and unofficial.

[2] Crashes not reported to the police are not included in this data set.

[3] https://www.ksdot.org/burtransplan/prodinfo/accista.asp

2.2 Crash Report Data

This report utilizes the following primary data points to understand road user behavior:

Title	Description
Crash Contributing Circumstance: Behavior	A factor perceived by the responding officer to have contributed to the crash. These include right of way violations, speed, etc.
Crash Contributing Circumstance: Environment	Officers can record perceived contributing circumstances arising from environmental conditions. These include visibility-related factors as well as those pertaining to the involved motor vehicle's condition (i.e. - glare, vehicle malfunction).
Crash Location	Officers can select from one of the following choices: • Interchange • Intersection • Intersection-related • Non-intersection • Median • Parking lot or driveway

2.3 Crash Contributing Circumstances: Behavior

Three percent (3%) of the 484 crashes compiled during 2009-2014 crash data were left without a contributing circumstance for either the person bicycling or the person driving. The others included a contributing circumstance for one party or the other. The graphs on the following page only illustrate reports that included a contributing circumstance, including "Unknown" and "Other".

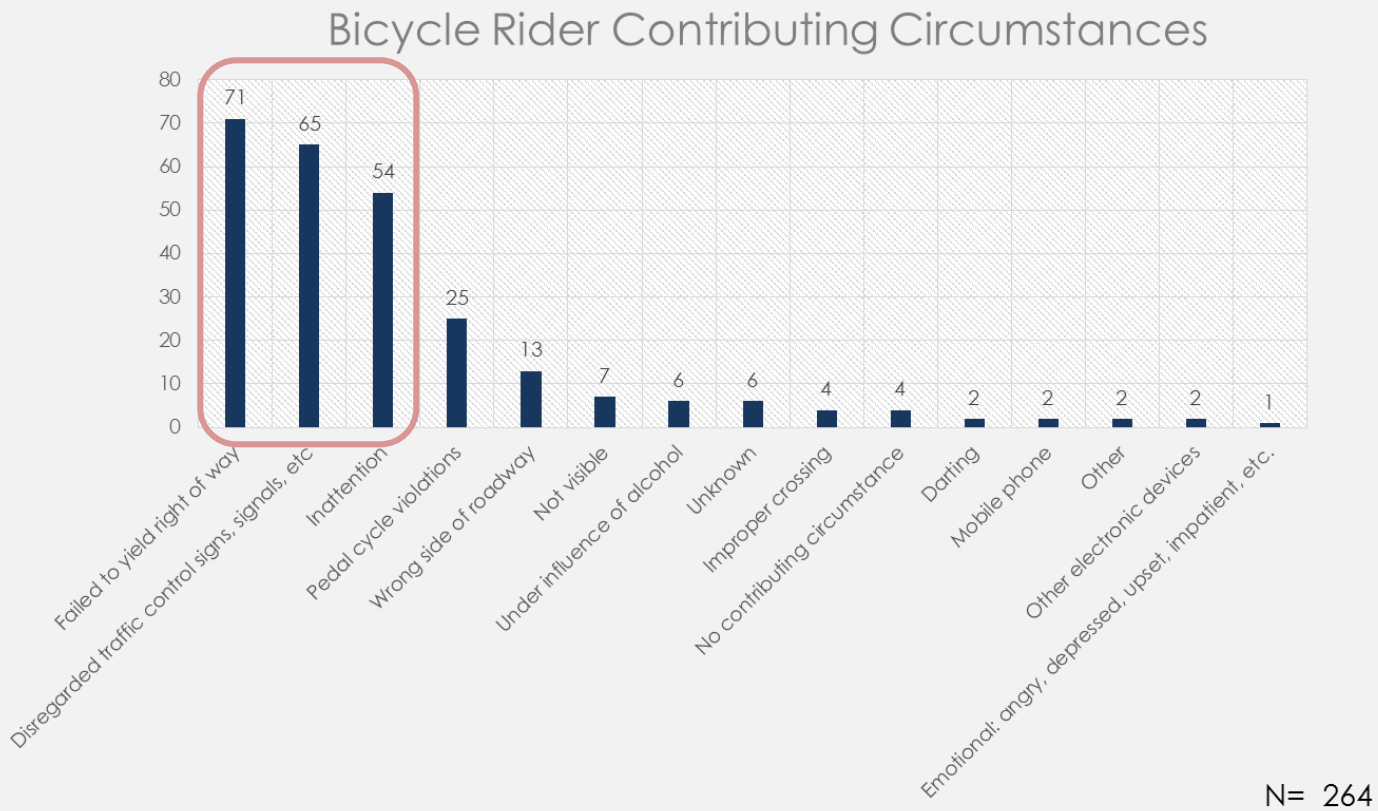

Bicycle Rider Contributing Circumstances
80
70
60
50
40
30
20
10
0
71
65
54
25
13
7
6
6
4
4
2
2
2
2
1
Failed to yield right of way
Disregarded traffic control signs, signals, etc
Inattention
Pedal cycle violations
Wrong side of roadway
Not visible
Under influence of alcohol
Unknown
Improper crossing
No contributing circumstance
Darting
Mobile phone
Other
Other electronic devices
Emotional: angry, depressed, upset, impatient, etc.
N= 264

Figure 1.

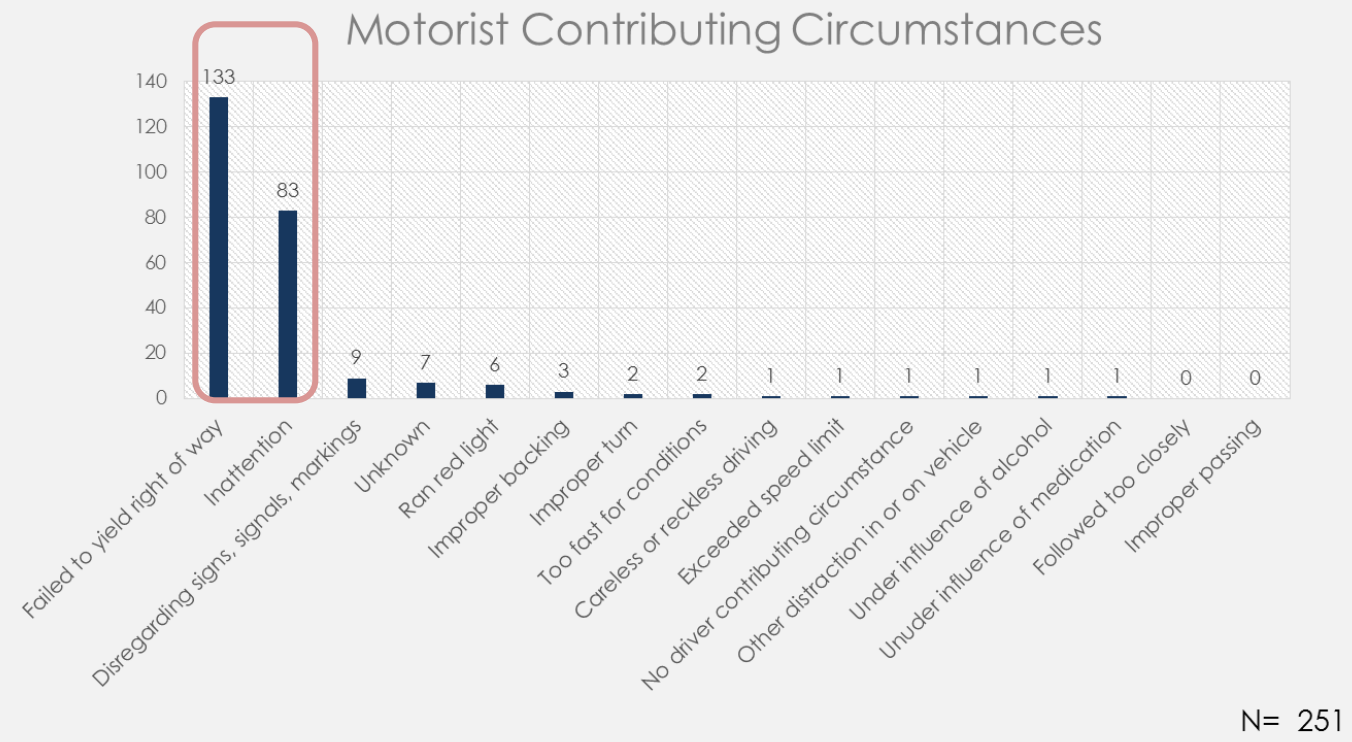

Motorist Contributing Circumstances
140
120
100
80
60
40
20
0
133
83
9
7
6
3
2
2
1
1
1
1
1
1
0
0
Failed to yield right of way
Inattention
Disregarding signs, signals, markings
Unknown
Ran red light
Improper backing
Improper turn
Too fast for conditions
Careless or reckless driving
Exceeded speed limit
No driver contributing circumstance
Other distraction in or on vehicle
Under influence of alcohol
Unuder influence of medication
Followed too closely
Improper passing
N= 251

Figure 2.

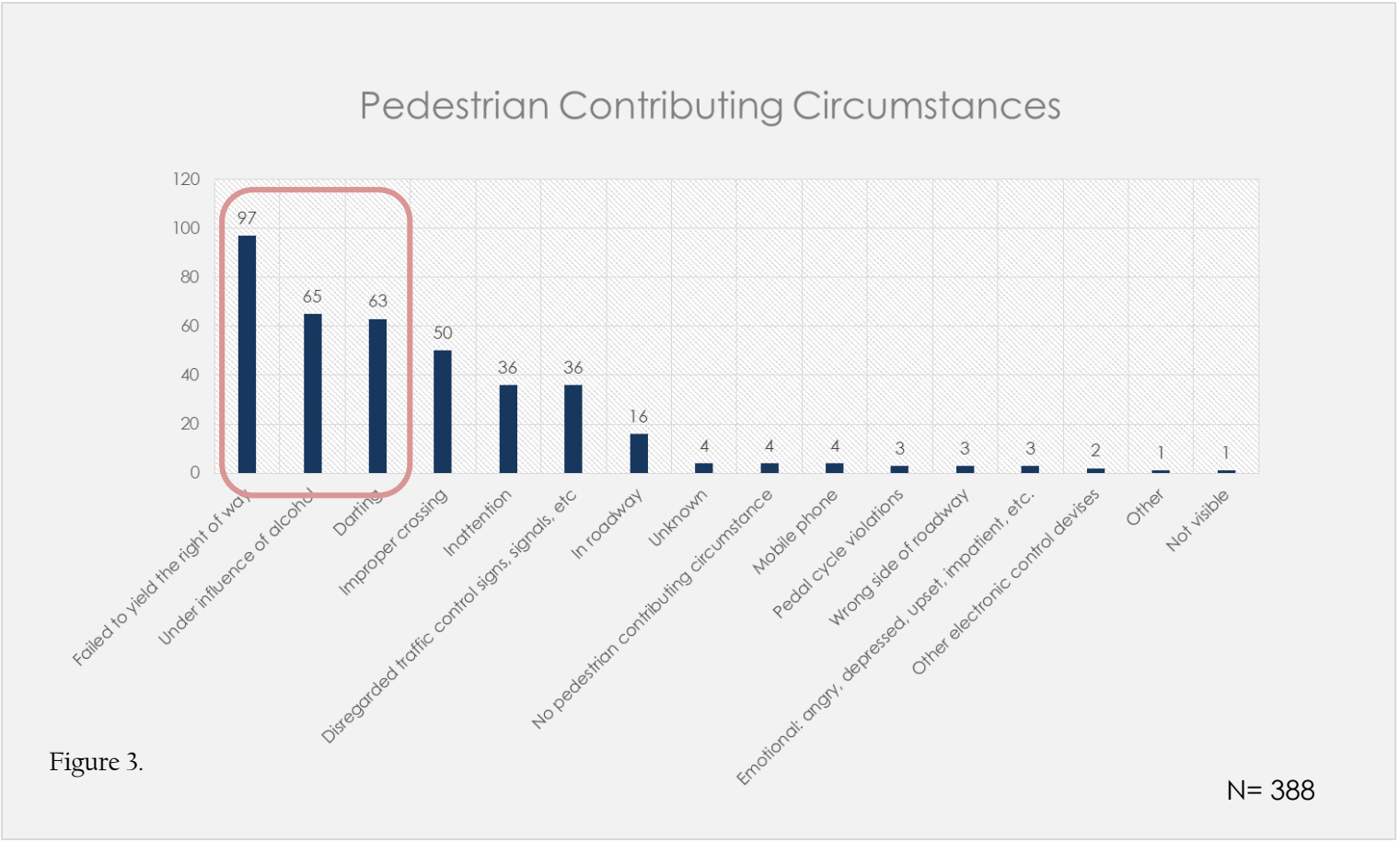

Pedestrian Contributing Circumstances
120
100
80
60
40
20
0
97
65
63
50
36
36
16
4
4
4
3
3
3
2
1
1
Failed to yield the right of way
Under influence of alcohol
Darting
Improper crossing
Inattention
Disregarded traffic control signs, signals, etc
In roadway
Unknown
No pedestrian contributing circumstance
Mobile phone
Pedal cycle violations
Wrong side of roadway
Emotional: angry, depressed, upset, impatient, etc.
Other electronic control devises
Other
Not visible
N= 388

Figure 3.

As demonstrated by Figures 1, 2, and 3, the most commonly assigned behavioral contributing circumstance for people bicycling, walking, and driving, was 'failure to yield the right-of-way'. Inattention ranked highly for people biking and driving. Pedestrian contributing circumstances also included 'under the influence of alchohol' and 'darting'. Nationally, bicycle vs. motorist fault in crashes is split roughly 50/50, with 48% ascribed to the motorist, 47% to the bicyclist, and 5% left undetermined.[4]

2015 Community Survey: Perceptions of Road User Behavior

The 2015 community survey, created for the Street Safety Education Initiative, investigated Wichita residents' perception of problematic behaviors among people driving, biking, and walking. Respondents were asked questions from various roadway users' points of view. Their responses are summarized below and are discussed in detail in Section 4. Please note that respondents were allowed to choose as many behaviors as they felt applicable. As Figure 4 identifies, several of the concerns are the same across various modes of travel:

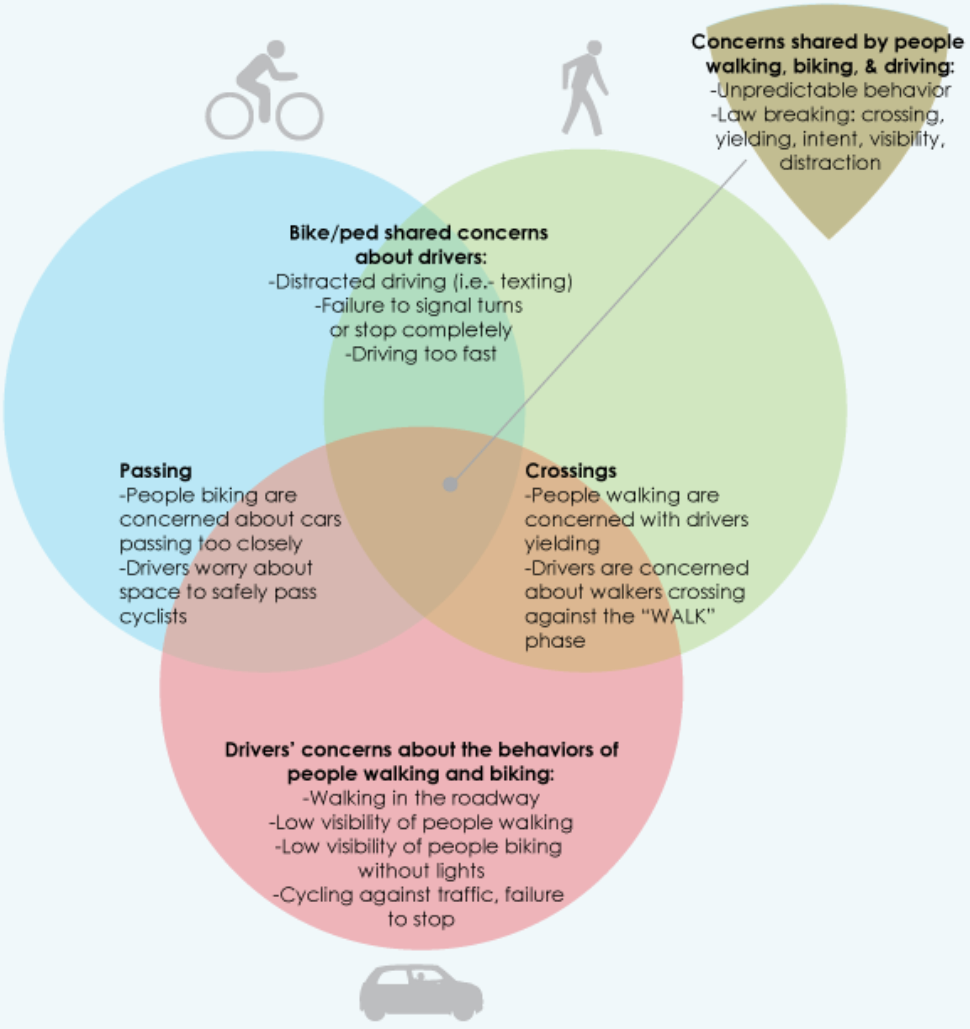


Figure 4. Perceived problematic behaviors from the community survey (2015).

[4] League of American Bicyclists, *Smart Cycling*, Traffic Skills 101 Curriculum

2.4 Crash Contributing Circumstances: Environment

No records were assigned a vehicle-related contributing circumstance. Environmental circumstances were left blank in 98% of the crash records. Vision obstructions related to lighting or glare accounted for 5 crashes' contributing environmental circumstances. Vision obstructions related to other vehicles or structures accounted for 6 crashes' contributing environmental circumstances.

No bicycle crashes were assigned motor vehicle equipment-related crash contributing circumstances. 98% of pedestrian-involved crashes were not assigned a motor vehicle equipment-related crash contributing circumstance. 98% of pedestrian and bicyle crashes were left without an assigned environmental contributing circumstance. Of the 2% assigned a contributing circumstance, vision obstructions were noted most often with sun/light glare and other vehicle/structure obstructions each receiving 0.8% and 0.7% of the respective notations.

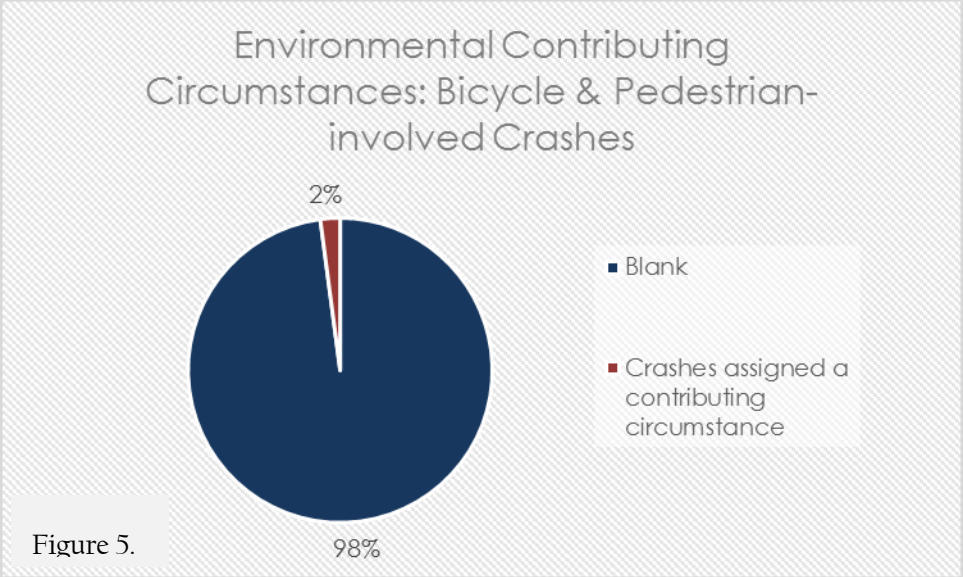


Figure 5.

2.5 Crash Location

Fifty percent (50%) of pedestrian and bicyclist crashes occurred in intersections or were intersection-related. The other half of all crashes occurred outside of an intersection (45%) or occurred within an interchange area (4%). Nationally, 90% of bicycle crashes involve turning or crossing traffic.[5]

[5] BikeEd Instructor Manual, based on *Effective Cycling*

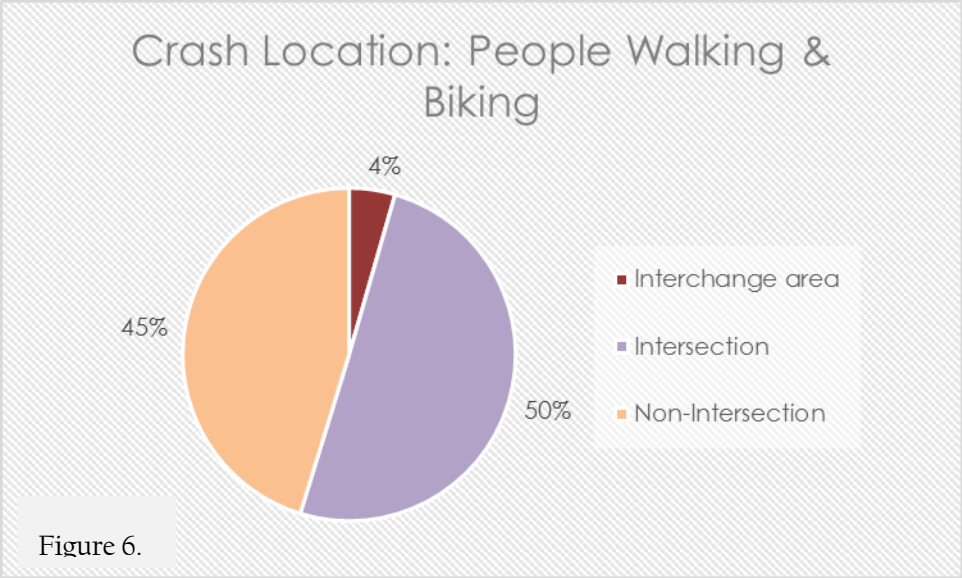


Figure 6.

The top five high-crash streets:

Figure 7. High Crash Corridors

Wichita Pedestrian Crashes		
Crash Frequency Rank	Street Name	Number of Crashes
1	Broadway	51
2	Harry	27
3	Central	26
4	US 54	24
5	Seneca	20

Wichita Bicycle Crashes		
Crash Frequency Rank	Street Name	Number of Crashes
1	Broadway	28
2	Central	18
3 (tie)	13th; 21st	13
4 (tie)	McLean; Seneca	12
5 (tie)	Douglas; Harry; Oliver	11

Figure 8. Wichita bike crash heat map. Red, orange, and yellow denote more crashes per 500 ft.

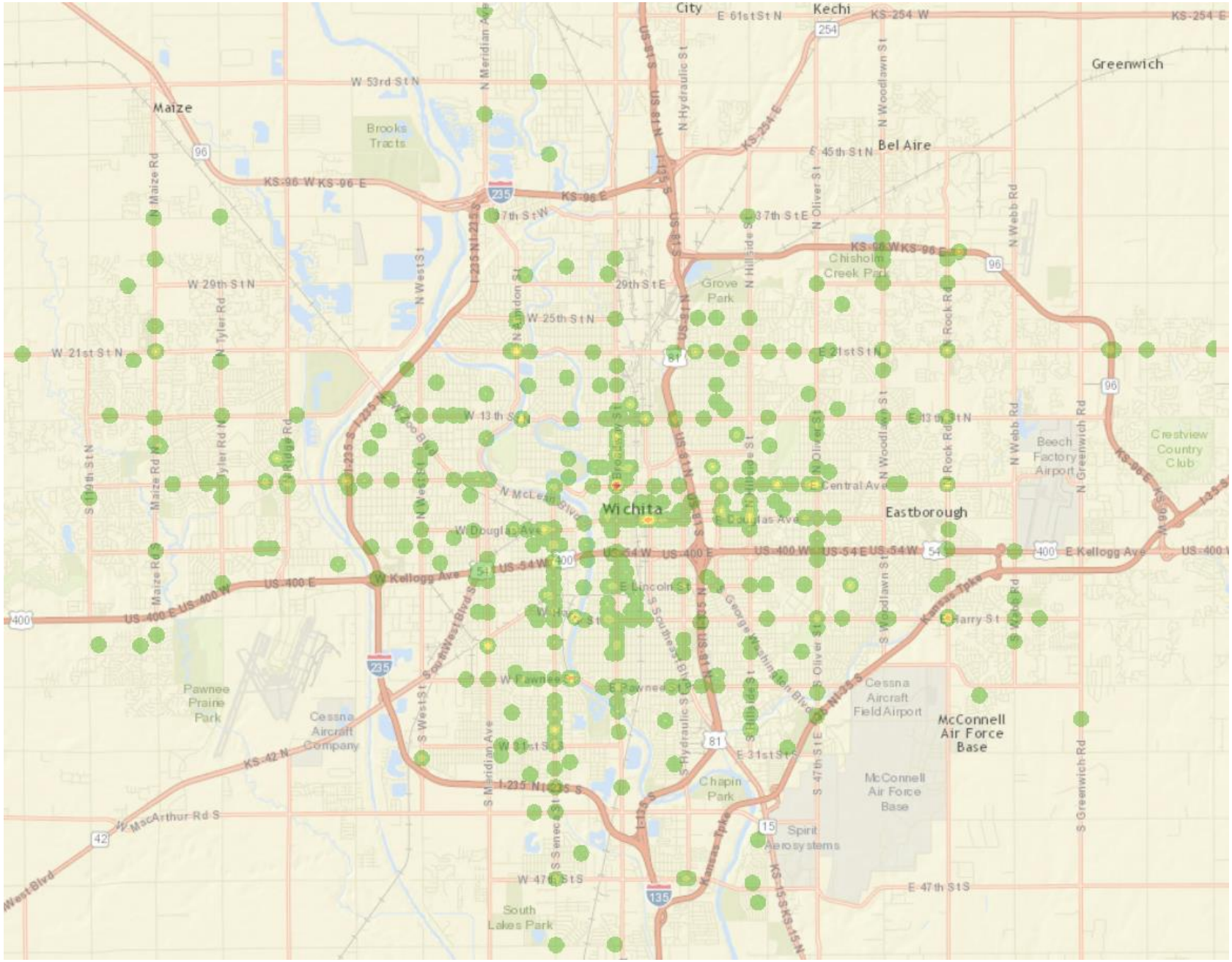
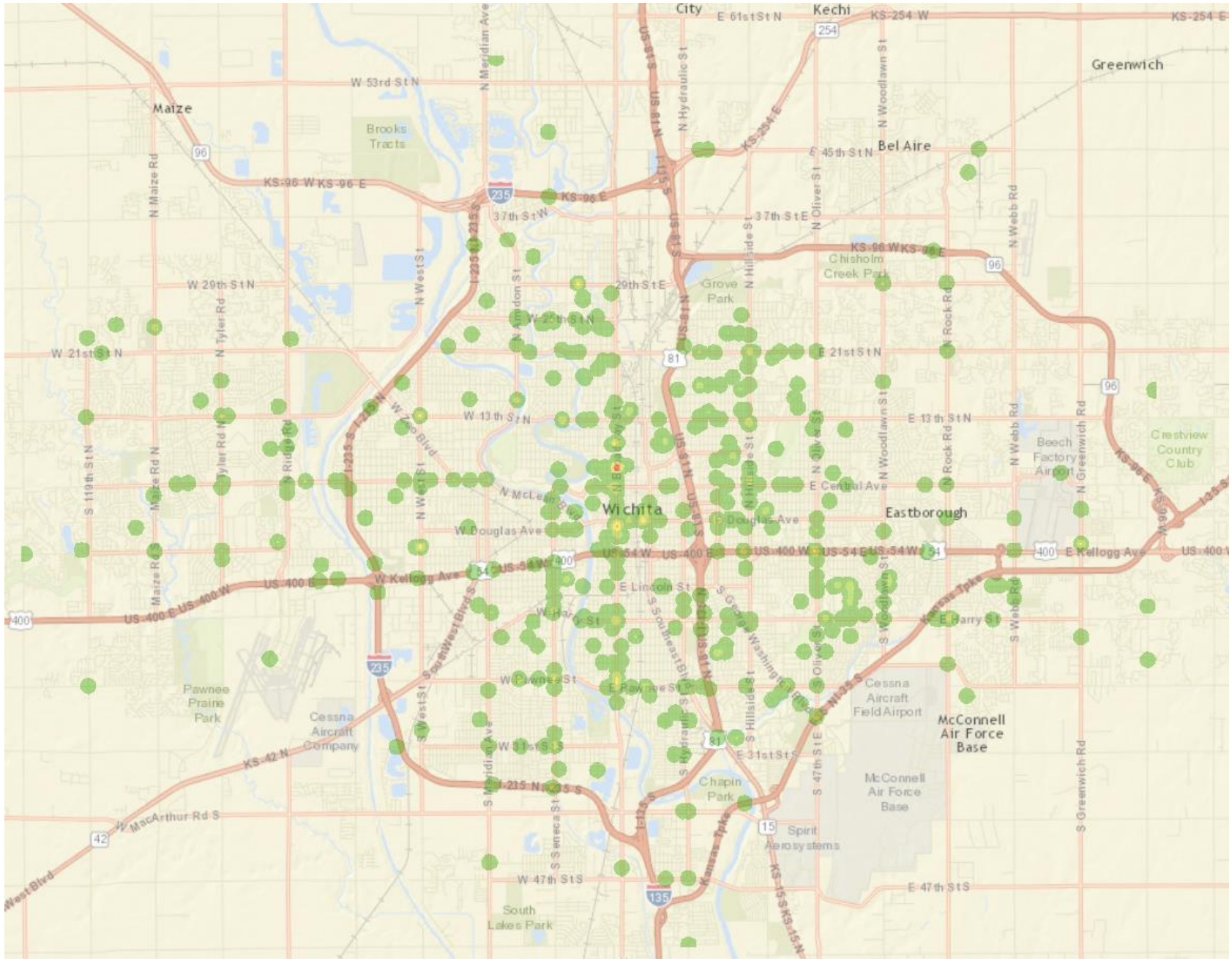


Figure 9. Wichita pedestrian crash heat map. Red, orange, and yellow denote more crashes per 500 ft.



Streets with Perceived Poor Interaction between Roadway Users

Community survey respondents were asked to identify any streets they felt were subject to particularly poor interaction between roadway users. The word cloud below represents the most commonly cited streets and other locations:

Figure 10. Streets and locations with frequent conflicts between people biking, walking, and driving

3 Education, Encouragement, and Enforcement in Previous Planning Documents

3.1 WAMPO Safety Plan

The Wichita Area Metropolitan Planning Organization (WAMPO) Safety Plan was prepared and developed by a Safety Advisory Group of representatives from local communities, transportation departments and agencies, and other regional stakeholders. The plan's primary goal is to improve the safety of the region's transportation system through:

- collecting and analyzing safety data
- identifying the region's safety priorities
- developing a plan to address these priorities
- implementing new safety-related programs and policies

This plan was developed with guidance from the Kansas Strategic Highway Safety Plan and the Metropolitan Transportation Plan (MTP) 2035, and is therefore intended to incorporate the safety

concerns of the WAMPO region as well as the overall transportation safety in the state of Kansas. The document has developed an approach based on the 5 E's of safety: Engineering, Education, Enforcement, Emergency Response, and Everyone Else. The "Education" approach recommends the implementation of a "share the road" campaign and an increase in the education and training of drivers, while the enforcement approach mentions efforts to reduce speeding, improve safety at intersections, and increase law enforcement of distracted driving.

3.2 WAMPO MOVE 2040

WAMPO MOVE 2040 is the long-range regional transportation plan that identifies the vision, goals, and desired conditions for the transportation system over the next twenty-five years. The plan's vision statement describes the overall goal to provide a regional transportation system that is safe, equitable, and multimodal.

Transportation system safety is one of the plan's eight main goals. It has developed performance measures connected to the Safety goal in adherence with the measures established under MAP-21, the fiscal year 2013-2014 federal transportation bill. In addition to 10 safety performance measures, the plan also outlines the following recommended safety measures:

- Design, conduct, and report outcomes of a regional safety study
- Identify high crash locations and implement measures to achieve crash reduction
- Develop a program to improve safety and the movement of goods and people for at-grade highway railroad crossing locations

3.3 Wichita Bicycle Master Plan

The Bicycle Master Plan lists 28 strategies and action steps recommended to realize the "objectives, goals, and Plan vision."[6] Eleven of these strategies (Strategy 9-19) are related to bicycle education, encouragement, and enforcement. Appendix I of the master plan stresses that "Infrastructure is only part of the solution to making a place more bicycle and pedestrian-friendly."[7] This appendix focuses on unsafe behaviors of roadway users, safe bicycling skills, and general awareness of bicyclists. It recognizes that policy and infrastructure improvements are necessary, but that, "actual conditions can only be impacted by the actions of all citizens both in daily conduct and organized group actions."[8]

Strategies

The eleven recommended education, encouragement and enforcement strategies are:

1. Strategy 9 - Provide printed, online, and mobile device bicycling guides
2. Strategy 10 – Educate Wichita Transportation system professionals and users about new bicycle facility types, planning, design and bicycle-related issues that may arise.

[6] Wichita Bicycle Master Plan, Chapter 4, Strategies and Actions, pg. 27.
[7] Wichita Bicycle Master Plan, Appendix I, pg. I-1
[8] Id. Some of these organizations cited are WAMPO, Wichita Police Department, BikeWalk Alliance of Wichita, Kansas Department of Transportation, The Health and Wellness Coalition of Wichita, Oz Bicycle club, Bike shops, Coasters Club and neighboring jurisdictions.

3. Strategy 11 – Promote bicycle education and encouragement in Wichita through partnerships with community organizations and businesses. This strategy cites the Plan's goal "of increasing safety for bicyclists."[9]
4. Strategy 12 – Support efforts to obtain funding for bicycle education and enforcement programs. This strategy recognizes the importance or educating the public and law enforcement.
5. Strategy 13 – Increase enforcement of bicyclist and motorist behavior to reduce bicycle and motor vehicle crashes. This strategy recommends that, "Educating both motorists and bicyclists about state and local laws should be the primary method for encouraging appropriate behavior."[10]
6. Strategy 14 – Work with school districts to develop collaborative partnerships to encourage children to bike to school. This strategy recommends Safe Routes to School (SRTS) programs and outreach programs like bicycle rodeos.
7. Strategy 15 – Coordinate increased participation in bicycling events.
8. Strategy 16 – Achieve the League of American Bicyclists' Bicycle Friendly Community bronze and then silver status designation.
9. Strategy 17 – Work with area businesses and colleges to engage them in the League of American Bicyclists' recognition program.
10. Strategy 18 – Enlist opinion leaders in promoting bicycling.
11. Strategy 19 – Engage area businesses in using bicycles in their advertising and other promotions.

Education

Issues of concern include, but are not limited to, wrong way riding, riding without a helmet, sharing the road, looking both ways, and compliance with traffic controls. The plan suggests that information be provided in English and Spanish. Specific existing and suggested programs are:

1. Safe Routes to School
2. Wichita Health and Wellness Coalition (WHWC)
3. Educating Law Enforcement Officers About Bicycles – the Master Plan does not mention an existing education program, but does recommend a program and describes it as "important."
4. City Website should be used to distribute educational information (i.e.: strategy 11).

Encouragement

Wichita has an enthusiastic bicycling community including multiple cycling clubs and groups. The Master Plan recognizes that the presence of bicyclists on the roads and paths increases awareness of all cyclists. According to the US Census, the bicycling community in Wichita is growing every year. Some recommended encouragement programs include:

1. Bike to Work Day – encourages people to substitute a bicycle for their car for one day in hope that, "the day's experience will inspire more regular bicycle commuting."[11] This event which has previously occurred in Wichita involves many recommended cross-promotion opportunities.
2. Create a Bicycle Facilities Map – this could encourage riders by making them aware of new ways to reach a destination.
3. Bicycles and transit

[9] Wichita Bicycle Master Plan, Chapter 4, Strategies and Actions, pg. 38.
[10] Id. Pg. 40.
[11] Wichita Bicycle Master Plan, Appendix I, pg. I-4.

4. Partnering – the Plan suggests partnering with the following organizations to encourage bicycling, and facilitate, organize, and cross-publicize bicycle efforts.
5. Group Rides
6. Achieve Bronze Level Bicycle Friendly Community Status

Enforcement

Enforcement is an element of education and encouragement. It presents an opportunity to educate the public about the benefits of safe shared use and it can encourage community members to take advantage of bicycle enhancements. The Wichita Bicycle Master Plan makes the following enforcement recommendations.

1. Police on Bikes – These members of law enforcement will engage bicyclists and model safe bicycling behavior. According to the Plan, the Wichita Police Department Bicycle Unit should be expanded and provided with greater specialized training.
2. Progressive/Educational ticketing – the plan states, "While it is everyone's responsibility to be educated on current laws, it is more effective to educate drivers and bicyclists before issuing citations."[12] A grace period allows roadway users an opportunity to adjust their behavior.
3. Support distracted driving campaigns – the plan recommends supporting legislation to prohibit hands-on cell phone use and texting while driving in Kansas. It also suggests a program to get school children and their parents to pledge to not use their cell phones while driving.

3.4 Wichita Pedestrian Master Plan

The Wichita Pedestrian Master Plan is intended to guide the City over the next 10 years in improving walking conditions for its residents. Safety while walking is a major component of the Plan, as it states that city residents walk for 1.3% of trips to work, yet pedestrians account for 16.8% of traffic fatalities throughout Wichita. The public participated in the development of the Plan and shared a variety of insights. The major takeaway from this input is that the population does see pedestrian safety as problem in the community and that they think improving the walking environment should be a priority. With the coordination between a Steering Committee of Wichita citizens and a Technical Advisory Committee comprised of City Staff, the Plan identified 10 Top Strategies. The following are those related most to pedestrian safety:

- Create a Marked Crosswalk Policy
- Focus Pedestrian Improvement Resources on Improving Safety at Intersections
- Provide sidewalks along Arterial Streets
- Improve Pedestrian Infrastructure near Senior Centers, Housing, and Destinations
- Improve Safety by Improving Pedestrian Infrastructure near Schools
- Make Maintenance of Pedestrian Infrastructure a Priority
- Support Efforts to Encourage Walking to School and Safety Education

[12] Id, Pg. I-7.

4 Findings from the 2015 Community Survey Effort

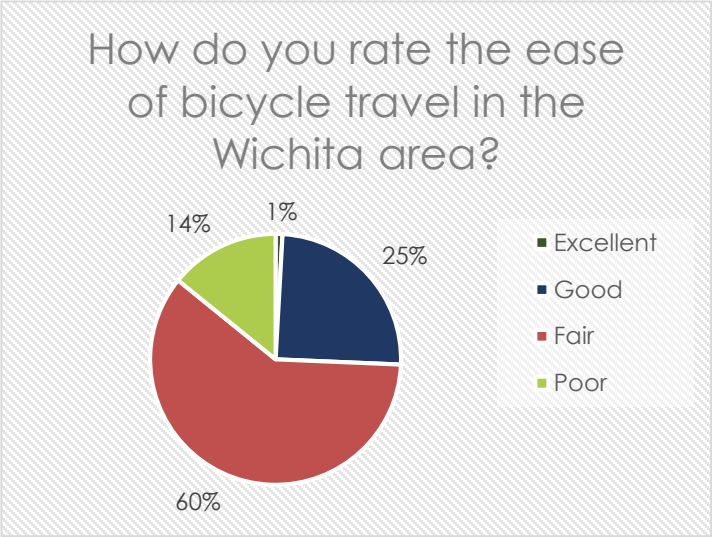
4.1 Overview

The 2015 community survey, initiated as part of this project, sought to uncover perceived problematic road user behaviors, as reported by people walking, biking, and driving. The survey was available online from May 11 – June 1, 2015. Wichita Transit made paper copies available for transit operators and transit riders. In total, the survey received 115 responses: 105 online responses and 14 paper responses.

Survey perceptions are summarized in the following charts.

4.2 Ease of Walking & Bicycling

2006, 2010, and 2012 data from the National Citizen Survey found that Wichita residents' satisfaction with their city's levels of walk- and bike-friendliness were "much below" that of similar cities' residents. The majority of this initiative's survey respondents rated the ease of walking and bicycling as "fair" (47% of respondents to the walking-based question; 60% of bicycling question respondents).



Figures 11 & 12.

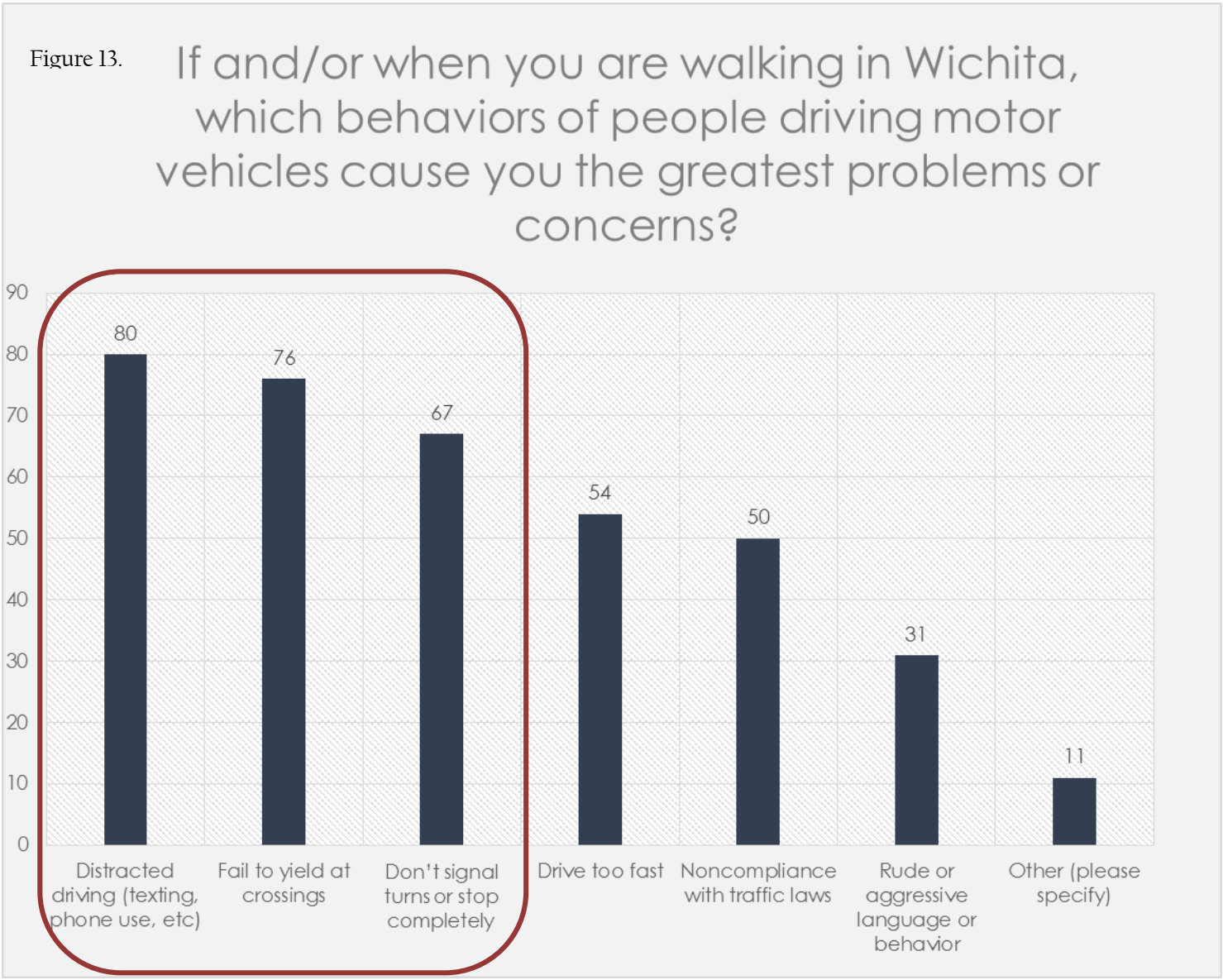
4.3 Perceived Problematic Behaviors

Residents were asked follow-up questions about getting around by foot, bicycle, and private motor vehicle. Concerns shared by users of all three forms of transportation include the following overarching themes. For more information, refer to the Venn diagram on page 4:

- Others' unpredictable behavior
- Law breaking involving improper crossing, yielding, showing intent, lack of visibility, and distraction.

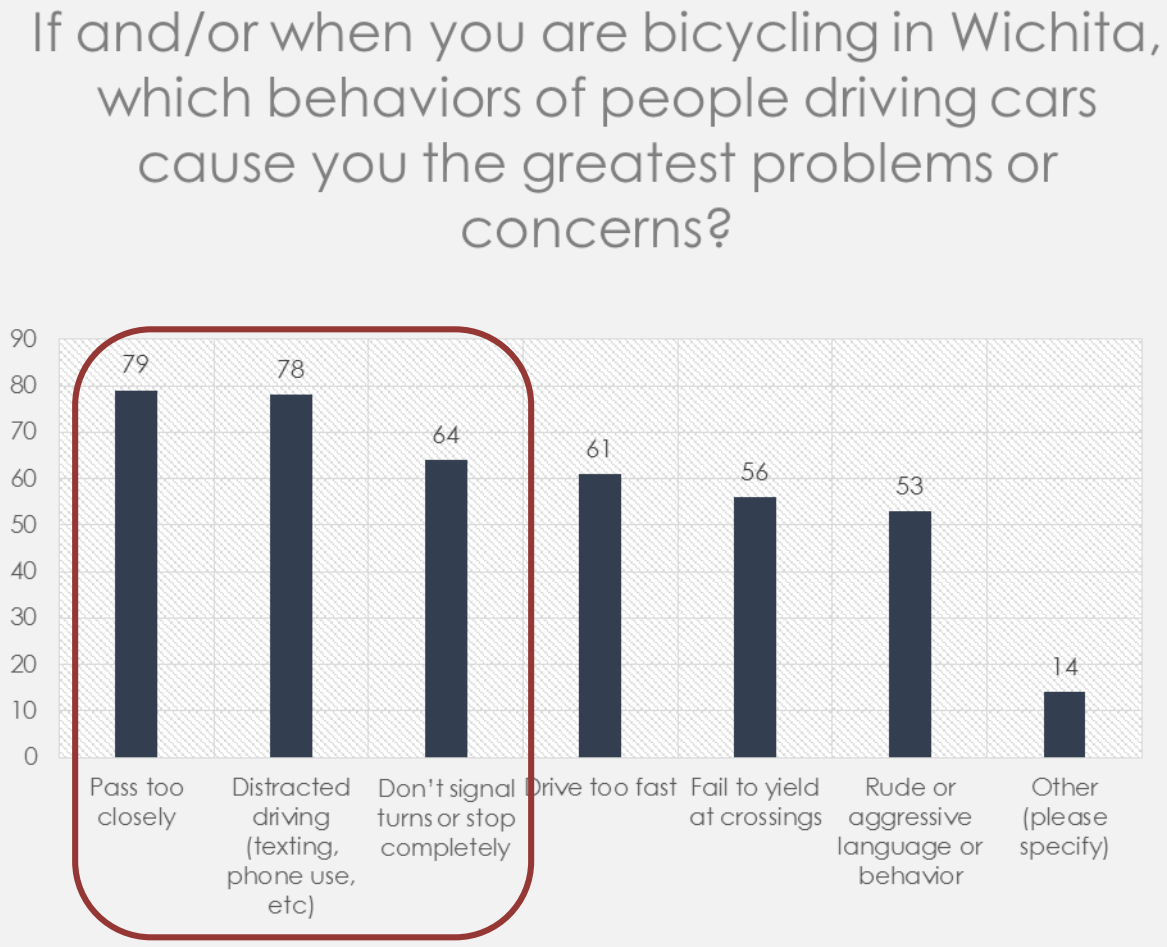
Walking

Figure 13.



Bicycling

Figure 14.



Driving

Figure 15.

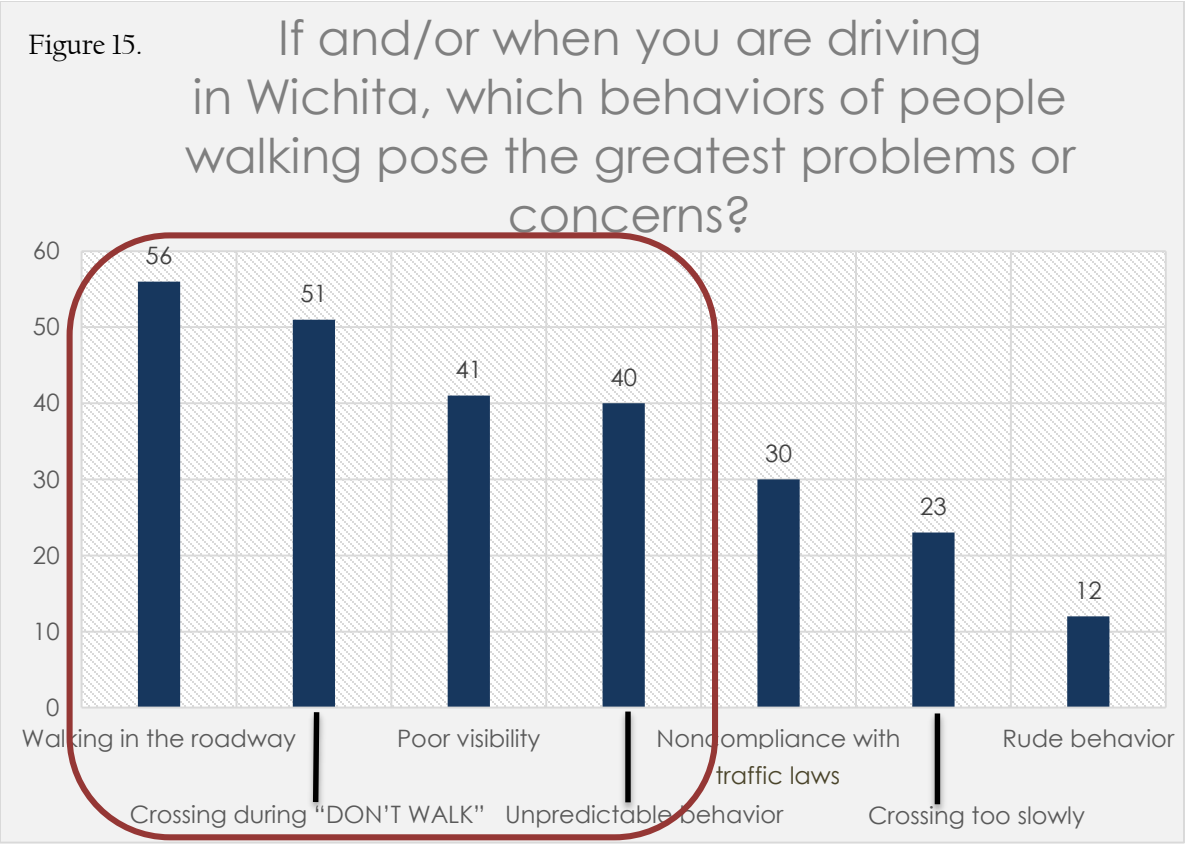
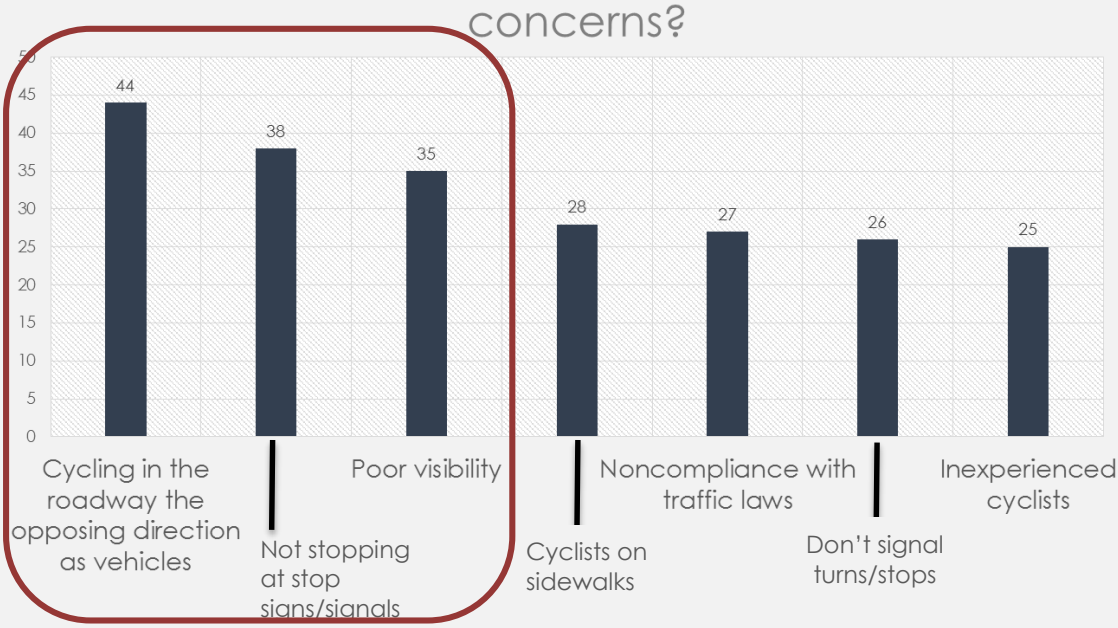


Figure 16.



4.4 Survey Respondent Characteristics & Demographics

Respondents were asked to describe their current levels of walking and bicycling activity. 83% of respondents reported walking for recreation and 68% bicycle for recreation. 25% walk for transportation and 37% use bicycles for this reason. The majority of respondents walk or bike more than once per week.

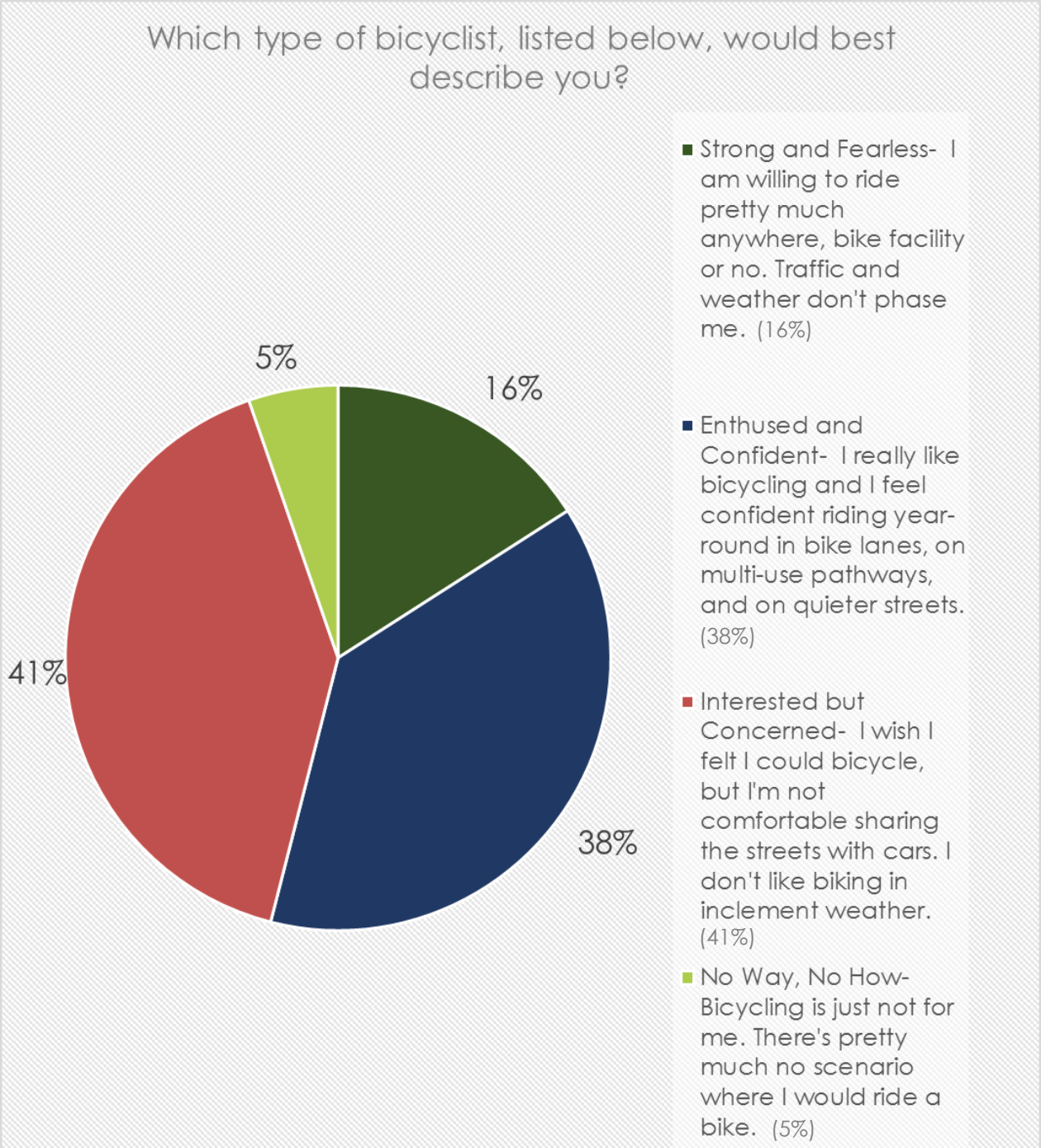


Figure 17.

Respondents were 54% female and 46% male. The 35-39 year old age category was most represented, followed by 60-64 year olds.

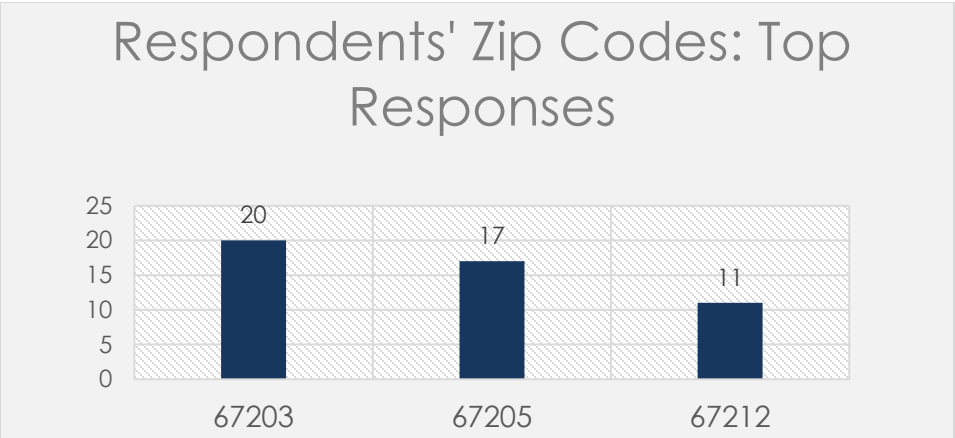


Figure 18.

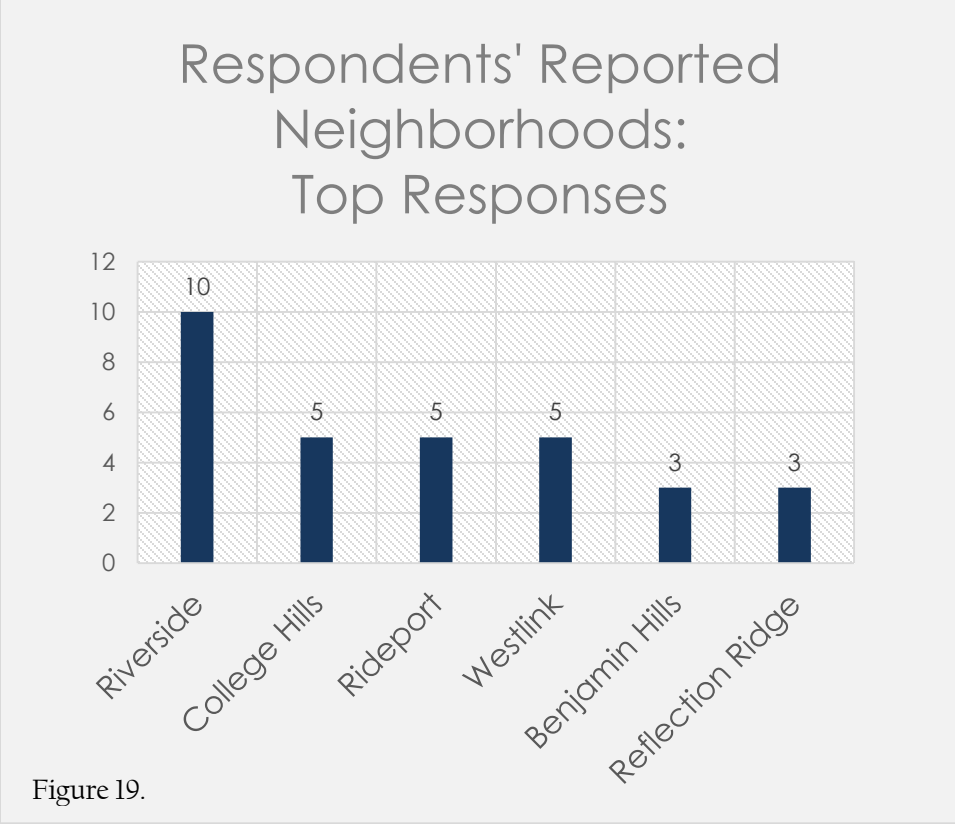


Figure 19.

Figures 16 and 17 describe where respondents reported living.

5 Findings from Wichita Bike Plan 2011 Survey Effort

As part of a City of Wichita public outreach and media campaign over 1,600 Bicycle Master Plan surveys were recorded from September 2011 to November 2011. The survey had 12 questions and took approximately 10-15 minutes to complete. Most respondents were males (59%) between the ages of 25-64 (77%). Among the survey questions were the following:

> "Drivers' inattentiveness and lack of knowledge of my bicycle rights causes me to ride more on the sidewalks rather than streets. Also causes me to often ride against traffic in neighborhoods so I can see vehicles approaching."
>
> –Comment from 2015 survey respondent

1. Whether respondents had ridden within the last two years, and if not, why;
    a. 81% had ridden in the last two years
    b. Among the 19% who hadn't (multiple responses were permitted):
        i. 55% did not feel safe riding a bicycle in traffic
        ii. 38% indicated that there are not enough bicycle lanes, and/or they are not interconnected.
        iii. 35% indicated that there were too many barriers to biking (traffic speeds, intersections that feel dangerous, etc.)
        iv. 37% simply did not own a bike.
2. If they had bicycled within the past two years they were asked to identify four factors that made it difficult to ride in Wichita and the neighboring areas. The respondents were also asked to rank those identified factors. Respondents could also choose "other" as a factor, and if so they were asked to write-in a response;
    a. "Bicycle lanes are too few" (914 responses) – this was the most common factor chosen (most of those who selected this response ranked it as the #1 factor)
    b. "Drivers do not respect the rights of bicyclists" (762) (most of those who selected this response ranked it as the #1 factor)
    c. "I don't feel safe riding around cars and trucks" (656) (most of those who selected this response ranked it as the #1 factor)
    d. "My school does not offer shower/locker facilities" (3) – this was the least common factor
    e. "other"(62) – common write-in responses for "other included:
        i. Poor weather
        ii. Personal security concerns
        iii. Lack of secure bike parking options

3. Which areas of the city they felt were most in need of attention for bicycling conditions (multiple responses were permitted);
    a. Along the length of major streets (e.g., E Central Ave, E Lincoln St) (1,071 responses) (791 of those indicated that this need was for substantial improvement)
    b. Crossing major intersections (e.g., E Central Ave and West St) (993)
    c. Crossing highways (e.g., I-135, US 54/Kellogg Ave) (968)
    d. Near transit bus stations/stops (888)
    e. Near service providers (e.g., hospitals, clinics) (809) – this was the least chosen response
4. Which specific locations (up to 9) they felt needed improvement. They were also asked to suggest improvements for the locations. This question received 2,022 write in responses
    a. 21st Street (85 responses)
    b. Downtown (67)
    c. Douglas (60) – unsafe driver behavior was specifically mentioned
    d. Central (58) – unsafe driver behavior was specifically mentioned
    e. 1st Street (42)
    f. 13th Street (37)
    g. 135th Street (25)